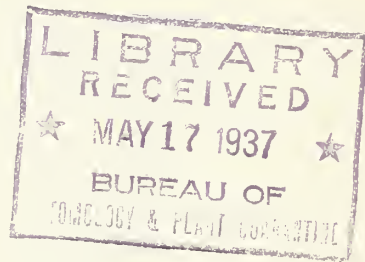


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THE INSECT PEST SURVEY  
BULLETIN



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## THE MORE IMPORTANT RECORDS FOR APRIL

From northern Indiana and Illinois westward to Montana and Oklahoma grasshopper eggs appear to have passed the winter in good condition, with prospects of moderate-to-heavy infestation over limited areas in many parts of the territory. The first records of hatching were made in Montana on April 21 and in Utah on April 17.

Mormon crickets were hatching during the second and third weeks in April in Montana, Colorado, Idaho, Utah, and Nevada.

Wireworms were reported as doing some damage in Idaho and southeastern Washington.

During the second week in the month first flights of May beetles occurred in Louisiana, Mississippi, Oklahoma, and Texas. Adults were also recorded later in the month from Iowa and Kansas.

The usual spring records on cutworm activity are being received from Florida to Michigan and westward to Missouri and Kansas. Reports have also been received from the Great Basin and the Pacific coast. In California considerable damage to tomatoes was reported from the southern part of the State.

In general, hessian fly infestation is very low.

Cold, wet weather held the chinch bug in hibernation in the East Central States. These insects are quite prevalent from Ohio to Nebraska, and southward to Kansas.

Severe damage to winter wheat by false wireworms was reported from western Nebraska and Kansas.

Rather heavy infestations of wheat by mites were reported from Kansas and Oklahoma. In the latter State considerable injury was observed.

The pea aphid is considerably more abundant on alfalfa and peas in the Norfolk section of Virginia than usual. It was also reported from Louisiana, Kansas, and Utah.

Thus far, reports from Mississippi to Virginia and westward to Wisconsin indicate that aphids are comparatively scarce on deciduous fruit trees.

The first record of collecting adult codling moth was made in Georgia on April 16. In the East Central States the insect appears to have passed the winter in good condition and in large numbers.

Tent caterpillar abundance was generally reported along the Atlantic coast from New Hampshire to Florida. The larvae were practically full grown in Florida by the middle of March, whereas in New Hampshire eggs were first observed hatching on April 19.

Serious damage by the flatheaded apple tree borer was reported from Nebraska, Kansas, and Oklahoma, probably a result of the drought of recent years.

The mild winter was reflected in heavy survival of the San Jose scale.

The heavy infestation of the green citrus aphid in Florida, reported in the last number of the Survey Bulletin, was brought under almost complete control by a period of heavy rains during the first part of the month, which encouraged a rapid development of a fungous disease.

The tomato pinworm was unusually abundant in southern California.

During the last week in the month Mexican bean beetles were observed in the field in the Norfolk section of Virginia. During about the same period they were reported from Alabama and Mississippi.

Damage to beans by the bean leaf beetle was reported from Georgia to Louisiana and up the Atlantic coast to Virginia.

A light infestation of pepper weevil was found in Sarasota County, Fla. This is the first infestation in the State outside of Manatee County.

The tobacco flea beetle was more destructive than usual in the Carolinas. It was also reported in small numbers from Florida and Tennessee.

In the eastern part of the Cotton Belt, although boll weevils apparently passed the winter successfully, the small numbers that went into hibernation indicate light early infestation. In the southern part of Texas, on the other hand, owing to the fact that the cotton remained green throughout the winter, the insect will probably be more abundant than usual.

Present indications are that the cotton flea hopper will be more abundant than usual in parts of Texas. The spring emergence is higher than in any previous year.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Indiana. J. J. Davis (April 26): There is every evidence of grasshopper abundance in the western tiers of counties and in northern Indiana, with scattered outbreaks more or less general in the northern half of the State.
- Illinois. W. P. Flint (April 26): The weather has been very cool and wet during the month of April. Grasshopper eggs brought into the laboratory are now hatching in about 12 days after being brought in. No hatch outside has been observed.
- Missouri. L. Haseman (April 27): Grasshopper eggs are coming through the winter in good shape, with perhaps not over 5-percent mortality of eggs. With a statewide abundance of eggs, as shown by winter surveys, there are prospects of a heavy hatch of young hoppers throughout the State during May.
- Nebraska. M. H. Swenk (April 22): Grasshoppers of various fall-hatching species were reported present in alfalfa and other fields during March and April; however, no Melanopli had hatched up to April 20.
- Kansas. H. R. Bryson (April): E. G. Kelly reports that grasshopper eggs were abundant in alfalfa and clover fields in southeastern Kansas on April 17. Hoppers recently hatched were observed at Manhattan on April 19. Eggs are abundant in experimental plots at Manhattan.
- Oklahoma. F. A. Fenton (April 17): A recent trip was made in the north-central part of the State with R. E. Shotwell. Eggs of Melanoplus differentialis Thos. were found to be in good condition, and Mr. Shotwell estimated the date of hatching as approximately the middle of May.
- Montana. H. B. Mills (April 22): First reports of grasshoppers hatching were from Powder River County in southeastern Montana on April 21.
- Utah. G. F. Knowlton (April 17): Melanoplus sp. is just beginning to hatch on warm south slopes at Genola, Utah County. A late season has delayed grasshopper hatching. Nymphs of Haldeman's locust (Hippiscus corallipes Hald.) are about half-grown, in the same county.

MORMON CRICKET (Anabrus simplex Hald.)

- Montana. H. B. Mills (April 22): Mormon crickets began hatching in Yellowstone and Big Horn Counties in south-central Montana and in Lake County in west-central Montana about April 12, and they are now largely hatched in the lower areas.



Colorado. C. R. Jones (April 23): The County Agent in Moffat County informs us that the Mormon cricket on the Western Slope is hatching profusely.

Idaho. C. Wakeland (April 19): In north-central Idaho Mormon crickets began hatching in Idaho County about March 15, in southwestern Idaho in Ada County about March 25, in Elmore County about April 1, and in Washington County about April 5. These are the earliest counties in the State infested with Mormon crickets. Continued rainy, snowy, cold weather is delaying activities of these insects.

Utah. C. J. Sorenson (April 26): Mormon crickets now in third and fourth instars menacing farm crops in Juab, Millard, and Tooele Counties, central Utah. Crickets are already much more numerous than in 1936. Hatching has not yet taken place on high mountainous elevations where many eggs were deposited and where many are still covered by snow.

Nevada. G. G. Schweis (April 21): A member of this department made an investigation of the Mormon cricket in eastern Nevada during the last few days and reports great numbers of crickets throughout the area.

WIREWORMS (Limonis spp.)

Idaho. R. W. Haegeler (April 19): Adults of wireworms, L. californicus Mann., are emerging and large numbers were occasionally observed at Parma, southwestern Idaho.

Washington. E. W. Jones (April 19): The Pacific Coast wireworm (L. canus Lec.), the sugar beet wireworm (L. californicus), and the western field wireworm (L. infuscatus Mots), were attacking young onion and carrot plants generally during April at Walla Walla, in southeastern Washington.

MAY BEETLES (Phyllophaga spp.)

Mississippi. J. Milton (April 24): May beetles are injuring roses and young pecan trees in Jackson.

E. W. Dunnam (April 18): On April 16 the first beetle observed this season was at a light in Leland and on April 18 two more were noted.

Louisiana. H. L. Dozier (April 23): The first spring flight took place on March 20 near Sunset, where the beetles were fairly abundant during several nights. They were very abundant there on April 23. The beetles were observed in vast numbers at lights at Opelousas on April 10-12.

Iowa. H. E. Jacques (April 22): May beetles are being taken at lights and in soil activities, but have not yet shown up in large numbers.



Kansas. H. R. Bryson (April 22): White grubs are moderately abundant at Manhattan this spring. Adults have not been taken at light but are near the surface of the soil ready to fly when the soil becomes warmer.

Oklahoma. F. A. Fenton (April 14): The first activities of June beetles were reported on April 14.

Texas. F. L. Thomas (April 26): The following records were made on species active since April 18: P. calceata Lec., P. hirtiventris Horn, P. rubiginosa Lec., P. crassissima Blanch., abundant at College Station, Brazos County; P. praetermissa Horn, P. tristis F., P. congrua Lec., active but not abundant at College Station; P. calceata, P. micans Knoch, P. crassissima, P. arkansana Schiffr., abundant in Smith County; P. prunina Lec., P. profunda Blanch., P. bipartita Horn, P. praetermissa, P. tristis, active but not abundant in Smith County; and P. submucida Lec., active on April 26 in Zavalla County at Crystal City.

#### GREEN JUNE BEETLE (Cotinis nitida L.)

Kentucky. M. L. Didlake (April 23): Green June beetle larvae excessively abundant in pasture and potato field near Louisville.

Tennessee. L. B. Scott (April 5): Reports from Sumner, Smith, and Davidson Counties in north-central Tennessee indicate severe damage in tobacco plant beds by green June beetle.

#### CUTWORMS (Noctuidae)

Florida. F. S. Chamberlin (April 23): The warm, wet weather in January favored the growth of green vegetation on tobacco land at Quincy, Gadsden County. For this reason, it was probable that cutworm infestation on newly set tobacco plants this spring would be heavier than usual. Observations made during the latter part of April indicate, however, that the infestations are only slightly greater than normal.

Indiana. J. J. Davis (April 26): Climbing cutworms are beginning to show some activity in the northern end of the State, where they have been quite destructive in recent years. Observations indicate that they are less abundant than last year, but still sufficiently numerous to require active control in orchards.

Michigan. R. Hutson (April 22): Cutworm activity became noticeable early. Reports of injury to fruit trees have been received from Berrien County.

Tennessee. L. B. Scott (April 14): Cutworms, probably of Feltia ducens Walk., are abundant in timothy and bluegrass pastures at Clarksville, Montgomery County.

Alabama. J. M. Robinson (April 22): Cutworms are active in gardens at Auburn, particularly where tomato plants have been transplanted.

Missouri. L. Haseman (April 27): Early indications are that cutworm populations in central Missouri will probably be below normal, though in the last week they have been showing up in greater numbers. Practically no gardening work has been done.

Kansas. H. R. Bryson (April 20): R. C. Smith and R. H. Painter found a large number of dingy cutworms (F. subgothica Haw.) in alfalfa and wheat fields, but they were not doing any damage.

Utah. C. J. Sorenson (April 26): Pale western cutworm (Porosagrotis orthogonia Morr.) causing slight injury in dry-farm grain in the north-western part of Utah County and on the Levan ridge in Juab County.

Washington. R. S. Lehman (April 19): Chorizagrotis agrestis Grote, has been doing considerable damage to cabbage plants in southeastern Washington. The plants are greenhouse-grown and were set out this spring.

California. J. Wilcox (April 14): From one to four cutworms were found per tomato plant in fields examined in Orange County. They were doing considerable damage to leaves and blossoms. Species determined by S. E. Crumb as F. annexa Treit. and Lycophotia margaritosa saucia Hbn.

#### FALL ARMYWORM (Laphygma frugiperda S. & A.)

Louisiana. L. O. Ellisor (April): A serious outbreak of the fall armyworm on oats occurred in northern Louisiana during the last 2 weeks. They are heavily parasitized and their numbers are being reduced rapidly.

C. L. Stracener (April): An outbreak of the fall armyworm, or grass worm, occurred on sugarcane in southern Louisiana, but the larvae were heavily parasitized and are not expected to do much damage.

#### WHITE-LINED SPHINX (Sphinx lineata F.)

California. S. Lockwood (April 20): An outbreak of the white-lined sphinx has been reported to this office from Riverside County. Apparently it is destroying native vegetation in and around Palm Springs, Riverside County.

#### PAINTED LADY (Cynthia cardui L.)

Vermont. H. L. Bailey (April 27): A specimen of the painted lady butterfly was noted at Montpelier, central Vermont, on April 10.

#### MOURNING-CLOAK BUTTERFLY (Hamadryas antiopa L.)

Ohio. J. S. Houser (April 5): An adult was observed flying in a woodland in Moorland, Wayne County, in north-central Ohio.

Utah. G. F. Knowlton (April 14): Mourning-cloak butterflies have been observed in flight for the last 3 weeks, whenever the weather was warm.

CEREAL AND FORAGE - CROP INSECTS

WHEAT AND OTHER SMALL GRAINS

HESSIAN FLY (Phytophaga destructor Say)

Ohio. T. H. Parks (April 24): The hessian fly infestation is very low and no visible damage is expected in any part of the State.

Indiana. W. B. Noble (April 19): Spring emergence of the hessian fly is late. A dissection of overwintered puparia from volunteer wheat at Lafayette showed 35 percent to contain white to pink pupae. Very few eggs present on young wheat. (April 23): A dissection by H. R. Painter showed 63 percent of puparia from volunteer wheat near Lafayette to contain white to red pupae. About 3 percent showed emergence of adults.

Illinois. C. Benton (April 15): White to red pupae present in volunteer wheat in Christian County, central Illinois.

Missouri. L. Haseman (April 27): Except for a few areas, the hessian fly is not particularly alarming this spring. The worst center, according to our observations, is on the east side of the State, particularly in the northeast part, where some heavily infested fields have been found.

Kansas. H. R. Bryson (April 22): Wheat fields in the western part of the State are practically free of infestation. In one field near Junction City adults were laying eggs.

CHINCH BUG (Blissus leucopterus Say)

Ohio. T. H. Parks (April 24): A survey made in eight counties from April 20 to 23 showed chinch bugs abundant in clumps of volunteer timothy in many localities. The heaviest infestation was found in Wyandot County, north-central Ohio, though this may not be the center of the infestation. Counts revealed from none to 206 overwintering bugs per square foot of timothy clump, depending on the locations visited. The average number per square foot for 43 examinations is 25 bugs. This is 12 times as many as were found in a similar survey during the spring of 1936. Dry weather will undoubtedly bring trouble.

Indiana. J. J. Davis (April 26): Chinch bug abundance is anticipated along the western border of the State from Lake County to Greene County and extending into the interior for at least two tiers of counties.

Illinois. C. Benton (April 17): The weather has been cold, except during the past few days, when maximums have reached 76-88° F. Observations near Taylorville, Christian County, in central Illinois, on these days showed the bugs to be restless and numbers moving around among the bunch-grass clumps, but most of them still rather inactively hiding in the clumps. There may have been some migration on these days, notwithstanding the rather stiff wind prevailing, although casual observations in small grains have shown no bugs yet.



W. P. Flint (April 22): The cold, wet weather has held the chinch bugs in hibernation. A very few flew out on April 22, but the number leaving winter quarters was very small.

Missouri. L. Haseman (April 27): In some areas the winter mortality of chinch bugs seems rather high, but generally the carry-over has been about normal. Only in three or four restricted areas does the pest appear to be especially alarming, though normal or perhaps above-normal carry-over has been observed throughout most of the farming counties of the State. West-central, northwest, and north-central areas include some localities with alarming carry-over.

Nebraska. M. H. Swenk (April 22): A survey of the winter survival of the chinch bug in the center of the more heavily infested area in south-eastern Nebraska, including Otoe, Nemaha, and Johnson Counties, during the latter part of March showed that slightly more than 80 percent of the bugs wintering in the bluestem bunch grasses had survived. Other infested counties include Richardson, Pawnee, Gage, Lancaster, Cass, and Sarpy.

Kansas. H. R. Bryson (April 17): A considerable number of chinch bugs overwintered successfully at Manhattan during the last winter. They are late coming out of winter quarters. E. G. Kelly reports that they were not out of hibernation in the southeastern Kansas counties on April 10.

Oklahoma. F. A. Fenton (April 17): An examination of the fields in Payne County, north-central Oklahoma, shows the chinch bug to be present only in small numbers and not sufficient to cause trouble this season. The averages per square foot for the last 2 years are as follows: 1936--Sorghum 2, grass 14; 1937--sorghum 13.8, grass 14.8.

#### GRAIN APHIDS (Aphididae)

North Carolina. Z. P. Metcalf (April 14): The green bug (Toxoptera graminum Rond.) is more abundant on oats and other small grains, in the Upper Piedmont and mountain counties than for the past 10 years. The pest has been determined as the green bug, although several other species are undoubtedly involved.

Maryland. E. N. Cory (April 23): Grain aphids, probably Macrosiphum granarium Kby., attacking wheat on the Eastern Shore in Trappe, Talbot County, and Ridgely, Caroline County. No specimens received.

Kansas. H. R. Bryson (April 17): No reports or observations on infestations of the green bug have been noted by E. G. Kelly, extension entomologist. Samples of wheat brought in for examination for mite injury contained a few green bugs.

Oklahoma. F. A. Fenton (April 17): An incipient outbreak of the green bug developed in the southwestern part of the State in Caddo, Kiowa, Comanche, Tillman, and Cotton Counties. Fields were visited on March 31 and on April 1 and 2, and numerous dead spots in many fields were found due to the activities of this pest. In some cases there has been no apparent

increase from last winter, and in others the infestation was light. In all cases the insects were breeding in both volunteer and drill wheat. The parasite Lysiphlebus testaceipes Cress. is present. A second trip to the infested section was made on April 10 and the insect had completely disappeared from most of the fields.

Colorado. C. R. Jones (April 23): Reports have been received that the grain aphid is prevalent in the wheat fields in Las Animas County, near Moehne. A few fields of winter wheat show a damage of about 25 percent; however, considerable numbers of ladybird beetles are now working on the grain aphid.

SAY'S PLANT BUG (Chlorochroa sayi Stal)

California. C. S. Morley (April 2): Say's plant bugs were found in heads of barley in Kern County at the rate of one to five bugs per five sweeps of the net. They were most numerous at the edges of fields planted to cotton last year.

SAWFLIES (Tenthredinidae)

Pennsylvania. E. J. Udine: As the wheat stem sawfly (Cephus pygmaeus L.) has spread into eastern Pennsylvania, it has gradually driven out the black grain stem sawfly, Trachelus tabidus F., which has been established for many years in that part of the country. The history of its spread shows that in 1919 it was confined to New York State, while T. tabidus occurred abundantly in Pennsylvania. By 1925 a mixture of the two species was found in certain sections of Pennsylvania along the Susquehanna Valley, with a preponderance of T. tabidus in evidence. By 1927 parts of the Susquehanna Valley in Pennsylvania showed an even abundance of both species, and by 1936 most of the eastern Pennsylvania and parts of the Susquehanna Valley region were infested preponderantly by C. pygmaeus, with the other species rarely showing up. T. tabidus, on the other hand, has been steadily advancing to the south and west, where no wheat sawflies originally occurred, and was found last year for the first time in Pittsylvania County in southern Virginia.

Kansas. H. R. Bryson (April 22): R. H. Painter and R. C. Smith found sawfly larvae plentiful on wheat. Larvae are leaf feeders but were doing apparent injury to wheat.

FALSE WIREWORMS (Eleodes spp.)

Nebraska. M. H. Swenk (April 22): Reports of severe damage to winter wheat by the plains false wireworm (E. opaca Say) were received in April from Saline, Sherman, Kearney, and Furnas Counties. One report from eastern Furnas County stated that in some fields 90 percent of the wheat plants had been killed during the winter and spring. Another report from the southern part of the county indicated that in some fields 70 percent of the wheat had been killed. The Saline County correspondent wrote that these false wireworms were very numerous about the roots of winter wheat in two fields. In Sherman County the pest was abundant during the fall, winter, and spring in cornfields around Ansley.

Kansas. H. R. Bryson (April 20): False wireworms (Eleodes spp.) were quite numerous in western Kansas last fall and are still present in considerable numbers. Very little damage was done to planted wheat, owing to the fact that sufficient soil moisture was present to insure rapid germination. One report was received from Atwood, indicating that larvae had done some injury to the underground part of the wheat stems.

CLOVER MITE (Bryobia praetiosa Koch)

Oklahoma. F. A. Fenton (April 17): A new pest, which has caused considerable injury in many wheat fields, is developing. This has been tentatively identified as the brown mite (B. praetiosa). It was first seen in the southwestern part of the State but has been reported recently from Enid to Stillwater, in the north-central part of the State.

A MITE (Petrobia tritici Ewing).

Kansas. H. R. Bryson (April 22): R. H. Painter and R. C. Smith found a mite, probably P. tritici, in four fields in central Kansas in the vicinity of Ellsworth, McPherson, and Lindsborg, but it was not causing the damage reported. Dry weather was responsible for most of the injury observed. Mites were abundant in only one field.

CORN

EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

Virginia. H. G. Walker and L. D. Anderson (April 27): Pupae were found at Norfolk on April 8. Several of the pupae were getting quite dark in color, as though they had been in the pupal stage for several days.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

Utah. G. F. Knowlton (April 14): Alfalfa weevils have been picked up on a number of occasions this spring, in berry patches many rods from the nearest alfalfa field.

California. A. E. Michelbacher (April 21): The harvest of the first crop of alfalfa in middle lowland California is nearly completed. In not a single case did the alfalfa weevil cause any economic injury. In one field near Patterson, in the San Joaquin Valley, the larval count reached about 2,000 individuals per 100 sweeps of an insect net before the field was cut. In the rest of the infested area highest average collections per 100 sweeps of a net failed to reach 500. In many fields the count was less than 100. Parasitization by Bathyplectes curculionis Thoms. has continued heavy. In the San Francisco Bay area it has remained close to 95 percent. On the 29th of March in the heavily infested field near Patterson only 34.5 percent of the larvae were parasitized, while in other fields in the San Joaquin Valley parasitization ranged from 70 to 80 percent.



PEA APHID (Illinoia pisi Kltb.)

Virginia. L. W. Brannon (April 27): I have just made 100 sweepings in alfalfa on the experiment station farm and collected approximately 1/2 pint of aphids, which I estimate at 50,000 or more. Sweepings made in this same field on April 30, 1936, resulted in an estimated collection of 15,800 aphids per 100 sweepings. Sweepings were also made on peas growing on the city farm nearby. Approximately 1,000 aphids were collected per 100 sweeps. On April 30, 1936, sweepings made in a field of peas on this same farm, resulted in the collection of 35 aphids per 150 sweeps. The peas on this farm, on which the sweepings were made, appear to be in full bloom now. In view of these findings, it appears that the pea aphid is considerably more abundant in the Norfolk area than at this time last year.

Louisiana. C. O. Eddy (April): The pea aphid has been numerous a number of times but has not been consistently injurious.

Kansas. H. R. Bryson (April 20): R. C. Smith found pea aphids in every alfalfa field examined from Manhattan westward to the central part of the State.

Utah. G. F. Knowlton (April 20): Pea aphids have been hatching in small numbers in Utah and Salt Lake Counties. The spring has been unusually late, retarding development. At Hyde Park pea aphids have hatched out, and are rather abundant on sweet clover. Most of those examined were in the second and third instars. They are less abundant upon alfalfa.

CLOVER

CLOVER LEAF WEEVIL (Hypera punctata F.)

Kentucky. M. L. Didlake (April 23): Clover leaf weevil larvae are numerous in red clover, also in tobacco plant beds, and are injuring lettuce and cabbage at Owenton and Carlisle.

Kansas. H. R. Bryson (April 20): R. C. Smith reports the clover leaf weevil numerous at Manhattan. He found no weevils in the alfalfa fields examined en route in a recent trip to the central part of the State.

CLOVER STEM BORER (Languria mozardi Latr.)

Iowa. H. E. Jacques (April 22): The clover stem borer seems to be more than ordinarily abundant.

VETCH

VETCH WEEVIL (Bruqinus brachialis Fahraeus)

North Carolina. J. S. Pinckney (April 17): The vetch weevil is now leaving its hibernation quarters and entering the vetch fields at Salisbury, Rowan County, west of the central part.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis F.)

Louisiana. C. O. Eddy (April): The sugarcane borer is transforming to adults rapidly and is laying eggs abundantly in south Louisiana.

F R U I T   I N S E C T S

APPLE

APPLE APHIDS (Aphidae)

Massachusetts. A. I. Bourne (April 26): Orchard plant lice are normally abundant, as evidenced by overwintering eggs. We found the first hatching at Amherst on April 16.

Connecticut. P. Garman (April 20): Aphis pomi Deg. and Amuraphis roseus Baker are less abundant than last year in New Haven County. Lady-beetles emerging in considerable numbers from hibernation.

New York. N. Y. State Coll. Agr. News Letter (April): The rosy apple aphid was hatching generally in the Hudson River Valley the last week of the month. A few grain aphids (Rhopalosiphum prunifoliae Fitch) and green aphids were also observed. In western New York a very few specimens of the grain and green species had been observed by the last of the month. The only report of the rosy aphid was made from Ithaca, where a single specimen was taken on April 26.

Pennsylvania. J. O. Pepper (April 26): Infestations of rosy apple aphid are scattered in eastern Pennsylvania apple orchards.

New Jersey. E. Kostal (April 22): Rosy apple aphid infestation light on apple trees at Morganville, Monmouth County, where the trees are in pre-pink stage.

Virginia. A. M. Woodside (March 30): Apple aphids began hatching in Augusta County (central valley region of Virginia) about March 30. Rosy aphid rare.

W. S. Hough (April 24): Apple aphids not numerous. Little or no commercial damage expected around Winchester, in northern Virginia, from rosy aphid.

Indiana. J. J. Davis (April 26): Apple aphids are scarce in southern Indiana, according to G. E. Marshall.

Wisconsin. C. L. Fluke (April 20): Eggs of the common species of fruit aphids not abundant, suggesting a very light early infestation in southwestern Wisconsin.

Missouri. L. Haseman (April 27): The different species of plant lice on fruit trees seem to be less abundant this spring than normally. Only one or two reports have been received.

CODLING MOTH (Carpocapsa pomonella L.)

Georgia. C. H. Alden (April 21): First codling moth caught in the bait traps at Cornelia, northeastern Georgia, on April 16, about the same time as in 1936. Caught 42 moths in 12 traps on April 19.

Ohio. T. H. Parks (April 24): Examination of overwintering cocoons indicates a high winter survival. Birds have destroyed many, making it difficult to collect larvae from tree trunks.

Indiana. L. F. Steiner (April 20): The first pupation was noted by S. A. Summerland on April 6 at Elberfeld (extreme southwestern Indiana). On April 20 approximately 25 percent had pupated, as compared to 50 percent on April 16, 1936. At Bicknell (50 miles north of Elberfeld) only 4 percent had pupated on April 16. The current population is well above normal. Winter mortality was very low and a heavy flight of the spring brood is anticipated.

J. J. Davis (April 26): The codling moth is overwintering in greater numbers than usual. G. E. Marshall reports that 3 percent of the worms under bands had pupated by April 22 at Orleans.

Illinois. W. P. Flint (April 19): Codling moth pupation was general in southern Illinois during the week beginning April 19.

Missouri. L. Haseman (April 27): For the past week codling moths have been pupating in the southern part of the State and are expected to begin emerging any day here in central and northern Missouri. The last 5 or 6 cold, rainy days and nights have again slowed down moth development, as well as fruit development.

Kansas. H. R. Bryson (April 22): R. L. Parker reports a normal carry-over of codling moth in northeastern Kansas.

EASTERN TENT CATERPILLAR (Malacosoma americana F.)

New Hampshire. J. G. Conklin (April 23): The eastern tent caterpillar was observed hatching in southern New Hampshire on April 19. On April 22 a heavy windstorm, accompanied by snow and sleet, occurred and many of the newly hatched caterpillars were destroyed.

Vermont. H. L. Bailey (April 23): First hatching of the eastern tent caterpillar was observed at Brattleboro, in the southern corner of the State, on April 23. Egg masses moderately abundant.

Massachusetts. A. I. Bourne. (April 19-20): Eggs were found to be hatching by the 19th in some sections. The pest is still very abundant over the State.



Rhode Island. A. E. Stone (April 29): We have noticed quite a number of tent caterpillar webs; apparently a high percentage of the eggs are hatching.

Connecticut. P. Garman (April 20): Egg masses of the tent caterpillar much less abundant than during the last 3 or 4 years. Eggs have now hatched in some localities in New Haven County.

E. P. Felt (April 24): Apple tent caterpillars are present in small numbers locally in southwestern Connecticut.

New York. R. E. Horsey (April 17): Hundreds of egg masses of the eastern tent caterpillar noted in territory south of Rochester and in the city nearby, where they were severe last year. Often a dozen or more egg masses are found on one tree. A large number were found on an ornamental planting of crabapples that had the nests removed and the caterpillars destroyed last spring and summer, wherever found. No defoliation was noticeable here last fall, but evidently enough caterpillars escaped to mature a number of moths.

E. P. Felt (April 24): Apple tent caterpillars are present in small numbers here and there in southeastern New York.

M. Kisliuk (April 26): Larvae 1/4 inch long were found in the tents on wild cherry on April 25 at Alley Pond Park and Cunningham Park, Long Island. There were also some unhatched eggs. These insects appear to be less abundant than in 1936.

Pennsylvania. H. N. Worthley (April 21): Egg masses first observed hatching on April 19 at State College, Centre County, in advance of the delayed dormant application to apple.

J. O. Pepper (April 26): Egg clusters do not seem as abundant as last year in eastern Pennsylvania. First hatching of eggs April 12.

E. J. Udine (April 13): Eggs were hatching on April 13 at Carlisle, Cumberland County. Last year in some locations eggs hatched on April 5.

New Jersey. E. Kostal (April 22): Infestations on apple and wild cherry trees at Morganville, Monmouth County, are very moderate, as compared with last 3 years; first larvae noted on April 22, as compared with April 4, in 1936.

South Carolina. C. O. Bare (April 12): An outbreak of the eastern tent caterpillar in Charleston County during the past 2 weeks attracts considerable attention. Nearly all wild cherry trees have been kept defoliated almost entirely, and the tents are frequently on wild plum.

Georgia. O. I. Snapp (March 29): The first colonies of the season were observed on wild cherry at Fort Valley (central part of the State) on March 29. The infestation appears to be lighter than usual.

T. L. Bissell (April 3): Tents of M. americana are present in wild cherry at Griffin, central Georgia, with larvae about one-quarter grown. (April 26): Tent caterpillars are unusually abundant on wild cherry, crabapple, and other fruit trees, and are also found wandering in fields at Experiment, in central Georgia, and at Elberton, in northeastern Georgia.

Florida. A. H. Madden (March 16): A number of full-grown larvae observed at Quincy, Gadsden County, crawling about in search of places to pupate. Apparently not sufficiently abundant to cause appreciable damage.

Tennessee. L. B. Scott (April 14): Many webs of tent caterpillars noticed on wild cherry at Clarksville.

Mississippi. D. W. Grimes (April 24): Numerous colonies on peach trees in vicinity of Durant, west-central part of State.

EYE-SPOTTED BUDMOTH (Spilonota ocellana D. & S.)

New York. N. Y. St. Coll. Agr. News Letter (April 12): In western New York the budmoth is general, but serious only in a comparatively few blocks in Niagara County. Numerous in many orchards in Orleans County.

FLATHEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

North Carolina. Z. P. Metcalf (April 14): Some cases of very serious damage by the flatheaded apple tree borer have been reported from Anson County, near the central part of the southern boundary.

Kansas. H. R. Bryson (April 19): Numerous reports of trees infested with the flatheaded apple tree borer have been received. The infestations are more numerous owing to the low vitality of the trees, caused by the drought during the last 3 years.

Nebraska. M. H. Swenk (April 22): Complaints of severe damage to fruit and shade trees by the flatheaded apple tree borer continued to be received, principally from the southeastern part of the State, and were concerned with apple, cherry, and other orchard trees, as well as hackberry, Moline elm, American elm, maple and other shade trees.

Oklahoma. F. A. Fenton (April 17): Reports have been received from widely separated parts of the State of injury to orchard and shade trees from the flatheaded apple tree borer.

APPLE FLEA WEEVIL (Orchestes pallicornis Say)

Ohio. T. H. Parks (April 24): Adults were first observed feeding on the young apple foliage on April 23. Very few had left their hibernation quarters under the tree at that time.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

- Vermont. H. L. Bailey (April 23): Scattering on apple and plum trees at Brattleboro. Many apparently live insects.
- New York. R. E. Horsey (April 17): Scarce at Rochester since the cold winter of 1933-34. Some scale lived over at the base of shrubs where they were protected by leaves or snow. This year the scale was found on several cotoneasters, a few being severely infested. Several Prunus spp., all low shrubs, have considerable scale. Four mountain ash trees, 6 to 8 inches in diameter, were a few years ago matted with scale in places on the main trunk, but there is only a little scattered new scale to be found this year.
- E. P. Felt (April 24): Very abundant on apple at Jericho, N. Y.
- New Jersey. T. L. Guyton (April 5): Numerous and causing death of some limbs and trees at Pittsgrove.
- Michigan. R. Hutson (April 22): The survey conducted in southern Michigan in Berrien, Allegan, Grand Traverse, Oakland, and other fruit-producing counties, as well as casual observation in other counties where fruit trees are not so numerous, indicates that very few scale survived the winter. The populations are low in all orchards visited.
- Wisconsin. E. L. Chambers (April 24): Scale apparently survived the winter in southern and eastern Wisconsin better than usual because of the mild winter and no low temperature over extended periods. All susceptible host plants in Appleton were sprayed.
- North Dakota. J. A. Munro (April 22): One cotoneaster hedge in the northern part of Fargo is heavily infested with San Jose scale.
- Georgia. O. I. Snapp (April 20): Infestation has increased rapidly as a result of the uninterrupted reproduction during the unusually mild winter, and the pest is now a serious problem in a number of peach orchards in central Georgia. The infestation is now considerably heavier than usual.
- Mississippi. C. Lyle (April 24): The mild winter has been favorable for increasing infestations. Most plant board inspectors reported that it was causing very serious injury in nearly all sections of the State.
- Missouri. L. Haseman (April 27): The carry-over in Missouri has been very light this year and comparatively little late dormant spraying has been done.
- California. L. D. Christenson (April 23): Within the past 2 weeks we have noted an infestation in an orchard at Hemet.



EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Massachusetts. A. I. Bourne (April 26): For the first time since this red mite established itself in the State there is a very general scarcity of the pest. In some orchards the growers have found practically no viable eggs; therefore they are omitting the customary oil sprays. I have found no orchard in which there is a heavy infestation.

Connecticut. P. Garman (April 20): Eggs much less abundant than usual.

Michigan. R. Hutson (April 22): Eggs are scattered in most places, although they are numerous here and there on especially susceptible varieties of trees.

OYSTERSHELL SCALE (Lepidosaphes ulmi L.)

Michigan. R. Hutson (April 22): Infestation from Traverse City, Parma, Saginaw, Grand Rapids, and vicinity have been reported on fruit trees.

Wisconsin. E. L. Chambers (April 24): Oystershell scale on both lilac and apple seems to be on the increase, with very little reduction as a result of winter temperatures.

SCURFY SCALE (Chionaspis furfura Fitch)

New York. E. P. Felt (April 24): Extremely abundant on apple trees near Westbury, L. I.

Pennsylvania. J. O. Pepper (April 26): Abundant in a few apple orchards in Adams County, on the southern boundary, just east of the central part.

PEACH

PLUM CURCULIO (Conotrachelus nemuphar Hbst.)

Virginia. A. M. Woodside (April 17): No plum curculios emerging from hibernation in Augusta County (central valley).

Georgia. O. I. Snapp (April 21): The appearance of adults from hibernation at Fort Valley (central Georgia) is still considerably less than usual, and the indications are that the infestation this year will be lighter than average. A number appeared on peach trees near favored places of hibernation during the periods March 23-26 and March 29-April 3, but the cool weather prevented them from becoming disseminated throughout the orchards until April 21, when a few were found on trees in the orchards some distance away. Temperatures in the 80's during the period April 17-21 apparently caused this activity; nevertheless, most adults are still confined to outside rows of peach trees. The first C. nemuphar egg of the season was found in a green peach on April 7, and the first larva (not more than 48 hours old) was found in a green peach on April 20. On account of the cool weather in March and April delaying activity of the plum curculio, it is doubtful whether there will be a second generation here this year.

T. L. Bissell (April): One curculio was jarred from wild plum on April 10 at Experiment, in central Georgia, the first of the season. We have been jarring peach and wild plum since the first of March. On April 26 curculios were numerous on peach.

C. H. Alden (April 15): Have been jarring peach trees at Cornelia, in northeastern Georgia, since March 20, but no adults were found until April 13, when 4 were caught on 24 trees. On April 15 caught 23 on 24 trees. The emergence from hibernation is taking place long after full bloom (March 20 to 25) this year, as at this time the shucks are being shed from the peaches in this section.

#### ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Georgia. O. I. Snapp (April 21): There has been no peach-twigg injury from this insect to date at Fort Valley (central Georgia), and first-brood larvae have not yet begun to appear. The first larvae (about 3 days old) of the first brood were found in peach twigs last year on April 16.

Ohio. R. B. Neiswander (April 7): Hibernating larvae were abundant on quince trees in Ottawa County. Scales of bark and crevices yielded as many as 63 living larvae on 1 tree. This condition existed in spite of the fact that birds had taken a considerable number and that approximately 30 percent died during the winter.

#### PEACH BORERS (Conopia spp.)

Idaho. R. W. Haegeler (April 7): A report on this borer appeared on page 13 of the March 1 issue of the Bulletin. The infestation was first observed in 1936. The trees where this borer was working in the trunk and crotches usually had a heavy infestation of the peach borer (C. exitiosa Say) working at the ground level and below. The infested area was examined on April 7 and all borers found in the trunks or crotches were dead, while the borers below the ground level or the snow line were alive. Minimum temperatures in this area in January ranged from -15° to -20° F.

#### LESSER PEACH BORER (Synanthedon pictipes G. & R.)

Michigan. R. Hutson (April 22): Lesser peach borer is numerous in the vicinities of Port Huron, Shelby, and Hillsdale.

#### BLACK PEACH APHID (Anuraphis persicae-niger Smith)

North Carolina. Z. P. Metcalf (April 14): The black peach aphid has been reported from the mountainous section of the State.

South Carolina. W. C. Nettles (April 23): The black peach aphid is more widespread and destructive than ever experienced throughout the Piedmont section of the State, but most especially in Spartanburg County.

Georgia. C. H. Alden (April 20): Attacking peach trees in northern Georgia, mostly replants, but occasionally on old trees. Killed a few replants

before remedy could be applied. Abundant at Alto, Cornelia, Commerce, and Esom Hill. More reports of injury from this insect this year than in any year of the past seventeen.

Mississippi. C. Lyle (April 24): Specimens of this aphid were received from Hattiesburg on April 21. It was causing serious injury to peach.

California. L. D. Christendon (April 23): During the past two weeks we have noted a rather severe infestation of black peach aphids in an orchard in Cherry Valley (near Beaumont).

#### TARNISHED PLANT BUG (Lygus pratensis L.)

Virginia. A. M. Woodside (April 17): The tarnished plant bug is rather abundant on peach trees.

#### PEAR

##### PEAR PSYLLA (Psyllia pyricola Foerst.)

New Hampshire. J. G. Conklin (April 23): On April 19 the pear psylla was very active on pear trees in Durham. The females were ovipositing freely and it is evident that a rather severe infestation will follow.

New York. N. Y. State Coll. Agr. News Letter (April): Eggs of the pear psylla were first observed in the Hudson Valley about April 7 and by the last of the month they were abundant in many orchards. In western New York adults have appeared but few eggs have been laid.

#### CHERRY

##### BLACK CHERRY APHID (Myzus cerasi F.)

New York. N. Y. State Coll. Agr. News Letter (April): Eggs of the black cherry aphid are hatching in the lower Hudson Valley.

##### RICE WEEVIL (Sitophilus oryzae L.)

North Carolina. W. A. Thomas (April 19): The rice weevil has been observed frequently within the past few days feeding in the open blossoms of wild cherry. At Chadbourn the weevil seems to be feeding on the pollen in these flowers.

#### PLUM

##### TENT CATERPILLARS (Malacosoma spp.)

California. S. Lockwood (April 20): A tent caterpillar, M. constricta Stretch, in somewhat more than normal numbers, is infesting prunes in Sonoma County. The California tent caterpillar (M. californica Pack.) is much more abundant, and some prunes in Sonoma County are almost completely infested, with from one to seven nests per tree.



GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Virginia. A. M. Woodside (April 17): On April 16 large numbers of the grape leafhopper were observed under leaves on the ground in woods. Associated with them in Augusta County were a few E. obliqua Say.

Utah. G. F. Knowlton (April 14): Grape leafhoppers have been abundant on grass in a vineyard south of Ogden for some weeks. Buds on grapes and Virginia creepers have not yet begun to burst.

California. C. S. Morley (April 2): Overwintering leafhoppers are numerous under Russian-thistle and other weeds in the Arvin district over half a mile from the nearest vineyards. Hoppers may be found on the grapevines in Kern County.

A TREE CRICKET (Oecanthus latipennis Riley)

Ohio. J. S. Houser (April 8): Specimens sent in from Coshocton by a correspondent who had noticed the large punctures in the vine when trimming his grapes and found the eggs lying parallel to the stem imbedded in the pith.

PECAN

PECAN APHIDS (Aphidae)

Georgia. T. L. Bissell (April 25): Stem mothers of Monellia costalis Fitch and Melanocallis caryaefoliae Davis have just matured at Experiment, central Georgia. They seem rather scarce on pecan.

OBSCURE SCALE (Chrysomphalus obscurus Comst.)

Mississippi. C. Lyle (April 24): A rather general infestation in a pecan orchard at Yazoo City was observed on March 23 by J. Milton. The scale has caused noticeable damage. Moderate-to-heavy infestations in pecan trees on the Delta are reported by D. W. Grimes.

CITRUS

GREEN CITRUS APHID (Aphis spiraecola Patch)

Florida. J. R. Watson (April 21): A. spiraecola increased in March to the heaviest infestation we have had since 1925 but was brought under almost complete control by heavy rains the first part of April, which started a fungus disease. Dry weather for the last 2 weeks has somewhat checked this disease but aphids are still comparatively scarce. The aphid-eating ladybeetle Leis sp. has been established in two additional counties, Brevard and Highlands.

COWPEA APHID (Aphis medicaginis Koch)

Arizona. C. D. Lebert (April 5): The bur clover or cowpea aphid was observed on the tips of citrus trees in the north Phoenix citrus area. No serious injury noticeable.

WHITEFLIES (Dialeurodes spp.)

Florida. J. R. Watson (April 21): In most sections of the Citrus Belt there seems to be an unusually heavy flight of whiteflies this year. D. citri Ashm. has largely emerged in the southern part of the Citrus Belt, but is just beginning to appear in the northern part around Monticello, according to S. O. Hill. The cloudy-winged species (D. citrifolii Morg.) is beginning to appear in the main part of the Citrus Belt.

Mississippi. C. Lyle (April 24): Infestations of whitefly on citrus have been observed in Harrison County and on cape jasmine in Lauderdale County.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Georgia. T. L. Bissell (April 5): More than usually prevalent in southern Georgia counties during the winter and spring. I have reports from Claxton, Evans County, and Reidsville, Tattnall County, both in southeastern Georgia. The first was in satsuma orange, the second not specified.

Alabama. J. M. Robinson (April 22): Active on shrubbery at Geneva the first of April.

Arizona. C. D. Lebert (April 15): Light infestations observed on citrus northeast of Phoenix and Pittosporum tobira at Chandler.

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

Arizona. C. D. Lebert (April 20): California red scale apparently absent this spring in the Phoenix area. Unable to find a single live scale. We hope the pest has been eradicated.

CITRUS THRIPS (Scirtothrips citri Moul.)

California. R. S. Woglum (April): Citrus thrips have been hatching for 2 or 3 weeks in central California and in some places are now fairly abundant in spite of the cool and rainy weather. Owing to the delayed and prolonged hatch the thrips will not appear to be as abundant as they sometimes are at this time of year. Thrips have been hatching more or less sporadically since the middle of March, but in the past few days have become numerous in some orange orchards in eastern San Bernardino County. They are also appearing freely in occasional lemon orchards, especially in San Bernardino County in orchards that suffered considerable thrips damage last year.

C. S. Morley (April 2): The first citrus thrips were found in the Edison district, Kern County, on March 12.

T R U C K - C R O P I N S E C T S

VEGETABLE WEEVIL (Listroderes obliquus Klug)

- Alabama. J. M. Robinson (April 22): Vegetable weevil adults are emerging at Auburn.
- Mississippi. C. Lyle (April 14): Causing serious injury to tomato plants at Hazlehurst. Plant board inspectors report that the number of complaints has decreased rapidly with the coming of warm weather.
- Louisiana. P. K. Harrison (April 20): Injury is much less than it has been all season. Little damage to mustard and turnip at Baton Rouge.
- California. R. S. Woglum (April): Now appearing generally on cover crops in citrus orchards. The pest has not been observed as damaging either the fruit or foliage of mature citrus trees. It feeds and breeds on cover crops such as mustard and malva.

STRIPED CUCUMBER BEETLE (Diabrotica vittata F.)

- Virginia. H. G. Walker (April 27): Observed feeding on flower clusters on collard plants at Norfolk on April 19.
- North Carolina. W. A. Thomas (April 19): The first specimens observed this season were feeding in the open blossoms of wild cherry, blackberry, and the native plants now in blossom at Chadbourn.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata F.)

- Virginia. L. W. Brannon (April 19): Observed feeding in the field at Norfolk today on young snap beans for the first time this season. This is about the normal date for appearance of the insect on beans.

A. M. Woodside (April 7): A few adults of the southern corn root worm were jarred from peach tree in Albemarle County (Central Piedmont) on April 7.

- Louisiana. C. O. Eddy (April): Adults said to be unusually abundant, especially where larger areas of winter cover crops were planted than usual.
- Texas. J. N. Roney (March): Observed from March 8 to the end of the month on turnip, beets, onions, and corn, in Galveston County.

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

- Texas. J. N. Roney (March): On turnip, cabbage, beets, and strawberries throughout March, in Galveston County.
- California. J. Wilcox and J. C. Elmore (April 14): The beetles were common in a young tomato field, feeding on the leaves, at San Onofre, San Diego County.



SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Oklahoma. F. A. Fenton (April 17): A report has been received from Okmulgee, in the northeastern part of the State, of an insect destroying corn and young onion seedling plants. The pest has been tentatively identified as the seed corn maggot.

FALSE CHINCHBUG (Nysius ericae Schill.)

North Dakota. J. A. Munro (April 21): False chinchbugs have wintered over in larger numbers than in past years in Fargo.

LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

South Carolina. C. O. Bare (April 24): Approximately 5 percent of about 3 acres of potatoes at Boone Hall Plantation, Charleston County, showed wilted tops and other injury due to feeding by the leaf-footed bug. The field was partly surrounded by woods and adjoined an old tomato field where the insect was numerous last season.

Louisiana. C. O. Eddy (April): The southern leaf-footed plant bug is extremely abundant.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Virginia. H. G. Walker (April 27): Emerging from hibernation on April 23 at Norfolk.

Georgia. T. O'Neill (April 1): Appearing and ovipositing on field-grown tomato seedlings just appearing above ground at Tifton and vicinity.

Alabama. J. M. Robinson (April 22): Quite abundant, attacking potatoes and tomatoes at Auburn.

Mississippi. C. Lyle (April 24): Reported generally present in Mississippi at this time, although the infestation is heavy only in spotted localities.

Louisiana. C. O. Eddy (April 24): Although present in small numbers during the last several weeks, arrived in the field in huge numbers during the last week.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

Virginia. L. D. Anderson and H. G. Walker (April 27): Began emerging from hibernation between April 15 and 22, at New Church, Accomac County.

TOMATO PINWORM (Gnorimoschema lycopersicella Busck)

Florida. E. W. Berger and G. B. Merrill (April 20): Tomato pinworm infestation in the southern half of the State, peninsular section, is light and has occasioned little if any loss; apparently of long standing but never sufficiently severe to attract attention of growers. First reported in Florida from Bradenton, 40 to 60 miles south of St. Petersburg and Tampa, respectively, in Manatee County, in 1932.

California. J. C. Elmore (April 20): Moths observed flying from tomato plant pile in Orange County. A potato field nearby is lightly infested. Moth emergence from under dead tomato vines was common in March, five moths per plant being counted in one field. New tomato fields were set out, beginning February 1. The cold weather in January killed all tomato vines on which the pinworm often continues development throughout the winter. Survival in the pupal stage, however, has been greater than was expected. (April 21): In an early tomato field near San Pedro, Los Angeles County, 10 plants out of 30 examined were infested. Twenty leaf folds were found. Volunteer tomato plants occurring by the thousands in abandoned fields from last year at Long Beach, Los Angeles County, are heavily infested. (April 22): An early tomato field in the upland area east of Santa Ana, Orange County, is infested. Fourteen pinworms were found on the leaves of 5 out of 10 plants examined.

CORN EAR WORM (Heliothis obsoleta F.)

Ohio. T. H. Parks (April 24): Larvae have been seriously injuring a crop of greenhouse tomatoes this month near Ashtabula. In other years maximum injury in greenhouses has occurred in October and November.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Mississippi. K. L. Cockerham (April 19): The potato leafhopper was numerous enough on an experimental planting of Irish potatoes at Biloxi to warrant treatment. Slight "hopperburn" was noticeable.

POTATO APHID (Illinoia solanifolii Ashm.)

Louisiana. C. O. Eddy (April 24): The potato aphid became numerous last week.

BEANS

MEXICAN BEAN BEETLE (Epilachna varivestis Muls.)

Virginia. L. W. Brannon (April 23): The first beetle of the season was found feeding in the field in the Norfolk area on snap beans on April 23. Daily observations have been made since the first beans were up on April 19; therefore the beetle was no doubt one of the first to emerge.

Alabama. J. M. Robinson (April 22): Adults are active on young beans at Auburn,

Mississippi. L. J. Goodgame (April 24): Has been observed at several places in Monroe County during the last 2 weeks.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Virginia. L. W. Brannon (April 19): The first beetles of the season were observed feeding on young snap beans in the field at Norfolk on April 19. As only one or two beetles were seen, they are apparently just emerging.

Georgia. O. I. Snapp (April 21): Unusually abundant at Fort Valley (central Georgia), and has already caused considerable damage to the early bean crop.

T. L. Bissell (April 26): Beetles are damaging beans already, plants up about 5 days, at Experiment, central Georgia.

Alabama. J. M. Robinson (April 22): Active on young beans at Auburn.

Mississippi. C. Lyle (April 24): Heavy infestations reported from the sections around Meridian, Durant, and State College.

Louisiana. L. O. Ellisor (April): Very abundant now and has partly defoliated the soybeans planted. Garden beans have also been attacked severely.

CABBAGE

IMPORTED CABBAGE WORM (Ascia rapae L.)

Florida. F. S. Chamberlin (March 4): Cabbage fields in Gadsden County are only lightly infested with larvae.

Ohio. B. J. Landis (April 17): Two adults were observed in flight at Columbus today.

Kentucky. M. L. Didlake (April 23): Adults observed flying at Lexington on April 16.

DIAMONDBACK MOTH (Plutella maculipennis Curt.)

Alabama. J. M. Robinson (April 22): Larvae are active on cabbage at Auburn.

Texas. J. N. Roney (March): Injurious on cabbage and collards during March in Galveston County.

Utah. G. F. Knowlton (April 17): Adults are now abundant on mustards in Utah County.

CABBAGE APHID (Brevicoryne brassicae L.)

Maryland. E. N. Cory (April 23): On cabbage plants at Tifton, Montgomery County.

Virginia. H. G. Walker (April 27): Rather abundant in some fields of seed kale and seed collards but very scarce in fields of spring cabbage at Norfolk.

Alabama. J. M. Robinson (April 22): Abundant at Auburn.

Mississippi. C. Lyle (April 24): Aphid infestations on cabbage are reported from Aberdeen, Yazoo City, Meridian, Ocean Springs, and Granada.

Oklahoma. F. A. Fenton (April 17): Present in widely scattered parts of the State, causing serious damage to young cabbage plants.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Virginia. L. W. Brannon (April 20: Adults have been observed feeding on seed kale plants at Norfolk since April 6. The first eggs were found on April 17. The dates of emergence and oviposition are about normal.

H. G. Walker (April 27): Several bugs had emerged from hibernation at Norfolk on April 12 and were feeding on collard plants.

Georgia. T. L. Bissell (April 3): Adults are collecting in blooming collard plants at Experiment.

Mississippi. C. Lyle (April 24): Abundant in gardens around Meridian. The first reports at State College were about April 15.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

California. J. Wilcox (April 22): Adults and larvae in all stages were common at Stanton.

SQUASH

SQUASH BUG (Anasa tristis Deg.)

Iowa. H. E. Jacques (April 22): Passed its hibernation well and is appearing in large numbers.

Utah. G. F. Knowlton (April 21): Appearing at Salt Lake and Sandy.

CELERY

ONION THRIPS (Thrips tabaci Lind.)

Florida. J. R. Watson (April 21): Very abundant on celery in the Sanford and Sarasota districts.

Texas. J. N. Roney (March): Abundant on onions and garlic throughout March in Galveston County.

SOUTHERN MOLE CRICKET (Scapteriscus acletus R. & H.)

Florida. J. N. Tenhet (April 15): Mole crickets are much less abundant than usual in the celery at Sanford.



SPINACH

GREEN PEACH APHID (Myzus persicae Sulz.)

New Jersey. M. D. Leonard (April 26): Reported as moderately abundant on spinach in Camden and Gloucester Counties.

Virginia. H. G. Walker (April 27): Becoming rather abundant in some fields of spinach in the western branch section near Norfolk.

Arizona. V. E. Romney (April 13): Aphids are spotted in fair numbers, and they are found on the tender tips of the seed stocks on sugar beet seed, in the Salt River Valley at Phoenix.

TURNIP

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Tennessee. L. B. Scott (March): Examinations of young cabbage plants showed no infestation. Overwintering turnip plants lightly infested at Clarks-ville, in the northwest section.

Louisiana. P. K. Harrison (April 20): Natural enemies have reduced the population to noninjurious numbers at Baton Rouge.

STRAWBERRY

STRAWBERRY LEAF ROLLER (Ancyliis comptana Froel.)

Idaho. R. W. Haegele (April 16): Moths observed emerging in large numbers and flying over strawberry beds in Gem County. Pupae numerous. Newly hatched larvae could not be found.

A WEBWORM (Acrolophus sp.)

Virginia. H. G. Walker (April 27): Root-feeding webworms, identified by C. Heinrich as belonging to the genus Acrolophus, have been causing considerable damage in three fields of strawberries at Capeville, on the Eastern Shore of Virginia.

FIELD CRICKET (Gryllus assimilis F.)

North Carolina. W. A. Thomas (April 24): Black field crickets are giving considerable trouble in the strawberry fields at Chadbourn by gnawing immature and ripe fruit.

Mississippi. H. Gladney (April 24): Light injury to strawberries has been noted in one field in Jackson County, at Ocean Springs.

STRAWBERRY WEEVIL (Anthonomus signatus Say)

Virginia. L. D. Anderson and H. G. Walker (April 27): The strawberry weevil is moderately abundant in the northern part of Accomac County and has already cut off a few of the strawberry buds.

TOBACCO WIREWORM (Monocrepidius vespertinus F.)

North Carolina. W. A. Thomas (April 24): The tobacco wireworm is doing considerable damage at Chadbourn by burrowing into ripe strawberries, especially where the fruit is in contact with the soil.

SLUGS (Mollusca)

North Carolina. W. A. Thomas (April 24): The slugs are particularly abundant in strawberry fields at Chadbourn, where they are eating large areas out of ripening berries, rendering them unmarketable. Some fields are losing 10 percent of the ripe berries.

Nebraska. M. H. Swenk (April 22): From Dawes County on April 19 came a complaint of common garden slugs (Agriolimax agrestis L.) infesting a strawberry bed, having lived through the winter under the mulch.

PEPPER

PEPPER WEEVIL (Anthonomus eugenii Cano)

Florida. J. R. Watson (April 21): A light infestation was found in Sarasota County, the first outside of Manatee County. All but four infested fields in Manatee County have been destroyed and efforts are being made to destroy these.

California. J. C. Elmore (April 20): Collected on April 2 on Solanum nigrum in three localities at San Luis Rey, San Diego County. This is an important pepper-growing district. On April 15 pepper weevils were collected on Solanum umbelliferum near Laguna Beach, Orange County, several miles from commercial pepper plants.

SWEETPOTATO

SWEETPOTATO WEEVIL (Cylas formicarius F.)

Georgia. F. S. Chamberlin (March 4): Inspections in the previously infested areas of Decatur County have shown no infestations.

Florida. F. S. Chamberlin (March 4): Inspections in the previously infested area in Gadsden County by State representatives showed one light infestation.

RING-LEGGED EARWIG (Anisolabis annulipes Lucas)

Mississippi. C. Lyle (April 24): This insect was damaging stored sweet-potatoes at Collins on April 7.

SUGAR BEETS

BEEF LEAFHOPPER (Eutettix tenellus Bak.)

Texas. M. J. Janes (March 24): Nymphs and newly emerged adults were found at Eagle Pass, Maverick County, on March 24.

TOBACCO

VEGETABLE WEEVIL (Listroderes obliquus Klug)

Florida. F. S. Chamberlin (April 8): The vegetable weevil, which is injuriously abundant for the first time in Gadsden County, has been found feeding



in considerable numbers in a tobacco plant bed in that county. The injury caused by the larvae consists mainly in feeding on the leaves but they sometimes bore into the crowns.

TOBACCO FLEA BEETLE (Epitrix parvula F.)

North Carolina. Z. P. Metcalf (April 22): Relatively more destructive this year than usual in the eastern two-thirds of the State.

South Carolina. N. Allen and W. H. White (April 28): Two fields at Lake City, Florence County, consisting of  $9\frac{1}{2}$  acres of tobacco that had been transplanted on April 6 to 8, were found to be severely injured by this pest. Examination showed that owing to cool weather the plants had not made any appreciable growth; consequently the flea beetles had severely injured the young plants after setting in the field. Blue mold was also a contributing factor in the death of many of the plants examined. Although only a small area of th  $9\frac{1}{2}$  acres was examined, the grower was of the opinion that at least 85 percent of his plants would have to be replanted.

Florida. F. S. Chamberlin (March 22): The few flea beetles present in the tobacco plant beds of northwestern Florida are causing no economic damage. No control measures have been necessary this season. (April 3): The first settings of tobacco are being attacked by flea beetles in about the usual numbers in Gadsden County.

Tennessee. L. B. Scott (April 14): First evidence of feeding by tobacco flea beetle in tobacco plant beds in Clarksville on April 14. Damage slight.

SOD WEBWORMS (Crambus spp.)

Kentucky. M. L. Didlake (April 23): Sod webworms excessively abundant in tobacco plant bed near Versailles.

MOLE CRICKETS (Scapteriscus spp.)

Florida. A. H. Madden (March 30): Mole crickets were moderately active in tobacco seed beds in Gadsden County during the month, but did little injury to the plants.

SPRINGTAILS (Collembola)

North Carolina. Z. P. Metcalf (April 14): Numerous specimens sent in by a farmer who complained that they are doing more damage than the flea beetles in his tobacco beds in Edgecombe County.

SLUG (Mollusca)

North Carolina. Z. P. Metcalf (April 14): Several complaints have been received of slugs on tobacco in southeastern North Carolina.

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Correction:--The note from Beltsville, Md., on page 376 of the October 1, 1936, Insect Pest Survey Bulletin (vol. 16, no. 8) credited to F. F. Smith, should have been credited to A. C. Davis.

# COTTON INSECTS

## BOLL WEEVIL (Anthonomus grandis Boh.)

Georgia. P. M. Gilmer (April 17): Indications are that the survival of hibernating weevils will be greater than usual, but because of the light population that went into hibernation, the initial infestation will be rather light. In the hibernating cages the weevils are moving out in numbers that would also indicate a survival above normal, at Tifton, in southern Georgia.

O. I. Snapp (April 26): The first adult of the season was observed today at Fort Valley. It was jarred from a peach tree, which was unusual, as the boll weevil is seldom taken on peach.

Louisiana. R. C. Gaines (April 27): Three boll weevils were taken on screen traps at Tallulah (Madison Parish) on April 17. The record of boll weevils taken on nine flight screen during the past month, as compared with the same periods in 1935 and 1936, is as follows:

Date	:	1937	:	1936	:	1935
April 3 -----	:	0	:	1	:	3
April 10 -----	:	0	:	0	:	6
April 17 -----	:	1	:	0	:	3
April 24 -----	:	2	:	0	:	0
	:		:		:	

Texas. R. W. Moreland (April 27): At College Station, in south-central Texas, the number of weevils found out of hibernation in the cages increased from a total of 146 during the week ending April 10 to 703 during the week ending April 24.

F. L. Thomas (April 17): It is believed that boll weevils will be more abundant in southern Texas than usual, especially on young cotton. Last year's cotton was not killed and the weevils have been active and breeding throughout the winter. In portions of central Texas the early infestation is not expected to be as heavy as last year. The large amount of poisoning last fall and the destruction of unpoisoned foliage by leaf worms (Alabama argillacea Hbn.) contributed to a reduction in the number of weevils to enter hibernation. The survival of those that did go into winter quarters appears fairly high at this time. (April 24): Boll weevils have been flying and are seeking cotton. They already have been taken on screen traps in weeds and in cotton fields at a considerable distance from winter shelter.

PINK BOLLWORM (Pectinophora gossypiella Saund.)

Texas, A. J. Chapman (April 24); There was a heavy emergence of moths from the hibernation cages during the week at Presidio, in the Big Bend of Texas. The emergence thus far indicates that there will be a heavier carry-over this year than last.

SALT-MARSH CATERPILLAR (Estigmene acrea Drury)

Texas, F. L. Thomas: Adults and eggs are rather common in the coast counties north of Corpus Christi, where there is likely to be more trouble than usual.

COTTON FLEA HOPPER (Psallus seriatus Reut.)

Texas, F. L. Thomas (April 17); The insects began hatching from overwintered eggs in the croton weeds as early as February 18 at College Station and, with the exception of 9 days when it was too cold, have been hatching every day since. Although many of the early hatched insects were killed as a result of a few hard rains on cold days, recent observations indicate that there are large numbers of eggs that have not hatched, (April 24); If weather conditions are such as to promote the growth of cotton during the remainder of the spring, severe flea hopper injury may be expected. The hatch from overwintered eggs during the period April 1-15, inclusive, exceeds all records. The average hatch for that period this year was 5,623 insects per 100 croton weeds collected from 8 counties in south-central Texas. The next highest emergence was in 1926, a flea-hopper year, when 4,300 insects hatched from 100 weeds. In 1935 and 1936 the hatch during the same period amounted to 1,000 and 1,106 flea hoppers, respectively. In the lower Rio Grande Valley north of Weslaco no flea hoppers have been seen and no damage has been found on cotton that is from 6 to 8 inches tall and is squaring. They have been reported on cotton in Bexar County.



F O R E S T   A N D   S H A D E - T R E E   I N S E C T S

CANKERWORMS (Geometridae)

Connecticut. P. Garman (April 20): Cankerworms (Alsophila pometaria Harr.) less abundant than usual on apple in New Haven County.

E. P. Felt (April 24): Eggs of fall cankerworm (A. pometaria) were somewhat numerous in the vicinity of Stamford.

Iowa. H. E. Jacques (April 22): Male spring cankerworms (Paleacrita vernata Peck.) unusually abundant in flight for the last 3 weeks, which indicates a rather heavy infestation.

New Jersey. M. D. Leonard (April 17): Moths of P. vernata very scarce at Ridgewood.

E. P. Felt (April 24): Fall cankerworm eggs were abundant in woodlands at Madison.

Pennsylvania. J. O. Pepper (April 26): Spring cankerworm abundant locally in eastern Pennsylvania. Adults found emerging in large numbers on March 30.

Ohio. T. H. Parks (April 24): Cankerworm moths were observed in flight around lights during the latter half of March and the first week of April.

Michigan. R. Hutson (April 22): Indications are that cankerworms will be quite numerous since eggs of the fall species are readily found almost anywhere.

North Dakota. J. A. Munro (April 21): Emergence of spring cankerworm adults in the vicinity of Fargo indicates moderate defoliation to trees later in the season.

F O R E S T   T E N T   C A T E R P I L L A R (Malacosoma disstria Hbn.)

Vermont. H. L. Bailey (April 27): The forest tent caterpillar was noted at Essex, on the western side of the State, on April 16, hatching from egg masses plastered on tree trunks. No hatching from egg masses on twigs was in evidence.

Pennsylvania. J. O. Pepper (April 26): Egg masses found rather abundant in northeastern Pennsylvania.

South Carolina. C. O. Bare (April 23): For several days debris falling like rain under live oaks at the South Carolina Truck Experiment Station at Charleston has been due to the numerous forest tent caterpillars feeding on them. Reports are that the caterpillars are seen in many places in this section of the State, defoliating the trees, and crawling across the highways.

W. C. Nettles (April 20): The forest tent caterpillar is unusually severe in the Walterboro section and is said to be defoliating a number of deciduous trees.



Mississippi. C. Lyle (April 24): This caterpillar was collected on pecan at Lumberton on April 12.

BOXELDER

BOXELDER APHID (Periphyllus negundinis Thos.)

Mississippi. C. Lyle (April 24): An extremely heavy infestation on boxelder was reported from Yazoo City on April 20.

ELM

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Mississippi. C. Lyle (April 24): Aphids were very abundant on elms in Jackson and at State College early in April.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Wisconsin. E. L. Chambers (April 24): While the hot, dry summer greatly reduced the infestation of European elm scale in Madison and Milwaukee, the surviving young scales were not apparently reduced any by winter. Spraying of all infested trees in Madison now in progress. Buds not yet started on any of the trees because of delayed cold spring.

Utah. G. F. Knowlton (April 14): Some spraying for European elm scale has been done in northern Utah localities. This insect causes extensive damage to elms throughout northern Utah.

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouche)

Oklahoma. F. A. Fenton (April 17): The European fruit lecanium has been reported as seriously damaging elms at Perry and Ponca City, in the north-central part of the State.

OAK

GOLDEN OAK SCALE (Asterolecanium variolosum Ratz.)

New York. E. P. Felt (April 24): Golden oak scale was extremely numerous on chestnut oak twigs at Cold Spring Harbor, N.Y.

OAK LECANIUM (Lecanium quercifex Fitch)

Georgia. T. L. Bissell (April 26): Water oak twig sent in today from Jackson, central Georgia, heavily infested. Eggs just started to hatch.

Mississippi. C. Lyle (April 24): Specimens on oak were received from Brooklyn on April 12 and from Sharon on April 15.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

New York. E. P. Felt (April 24): A few cases of injury were reported from White Plains.

NANTUCKET PINE SHOOT MOTH (Rhyacionia frustrana Comst.)

Alabama. J. M. Robinson (April 22): The larvae of the Nantucket pine moth were active on small pines at Ozark during the first half of April.

A MIDGE (Contarinia resinicola O. S. )

Ohio. J. S. Houser (March 23): Large specimen white pine trees on two estates at Gates Mills bore numerous exudations of resin around pruning scars, points of injury, and on the undersides of branches where they leave the trunk or limbs. The principal damage done is that of inhibiting the healing of wounds and disfiguring the tree. Occasionally this insect has been observed in Ohio, but never before to the extent shown in this instance.

RED-HEADED PINE SAWFLY (Neodiprion lecontei Fitch)

New York. E. W. Littlefield (Spring 1937): Destroys some entire plantations of Pinus resinosa. Has become epidemic in the Black River Valley. Reported sporadically from other localities.

A SPITTLEBUG (Aphrophora parallela Say)

New York. E. W. Littlefield (Spring 1937): Destroys entire plantations of Pinus sylvestris. Has become epidemic in Hudson Valley during the last 2 years.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Wisconsin. E. L. Chambers (April 24): Mugho, white, and Austrian pine twigs have been sent in for identification of pine needle scale and infested trees seem to have had infestation reduced very little, because of mild winter weather.

POPLAR

POPLAR VAGABOND APHID (Mordwilkoja vagabunda Walsh)

Nebraska. M. H. Swenk (April 22): The vagabond cottonwood gall caused by this aphid was reported from Sheridan County on March 5 and from Grant County on April 3.

SPRUCE

EASTERN SPRUCE BEETLE (Dendroctonus piceaperda Hopk.)

New York. E. W. Littlefield (Spring 1937): Kills older trees only. Epidemic on Picea rubra throughout an area of undetermined extent.

INSECTS AFFECTING GREENHOUSE  
AND ORNAMENTAL PLANTS

EUROPEAN EARWIG (Forficula auricularia L.)

Washington. E. W. Jones (April 19): The overwintering adults have emerged from the soil this month and are abundant in the flower gardens at Walla Walla.

OYSTERSHELL SCALE (Lepidosaphes ulmi L.)

New York. R. E. Horsey (April 17): A bad infestation on Lonicera spp. at Rochester. Numerous other Lonicera nearby were free of scale. One Amelanchier sp. severely infested and 2 more slightly so in a group of 15 shrubs of the same kind.

North Dakota. J. A. Munro (April 22): Many cotoneaster hedges in the vicinity of Fargo are heavily infested.

SOFT SCALE (Coccus hesperidum L.)

Alabama. J. M. Robinson (April 22): The soft brown scale was attacking shrubbery at Union Springs the middle of April.

ARBORVITAE

ARBORVITAE APHID (Lachnus thujaefilina Del Guer.)

Mississippi. C. Lyle (April 24): Specimens on arborvitae were collected at Fayette on March 27. Plant Board inspectors report these aphids unusually abundant at Meridian, Aberdeen, and Jackson.

Arizona. C. D. Lebert (April 4): Observed in several residential plantings in Phoenix. Thus far the interiors of the host plants were free from mold or excess of honey dew, which is usually present.

AZALEA

A SCALE INSECT (Pseudaonida paeoniae Ckll.)

South Carolina. F. F. Smith (April 10): Generally present in older azalea gardens at Charleston. Severely infested plants develop sparse foliage, few or no flowers, and gradually die.

BOXWOOD

BOXWOOD PSYLLID (Psyllia buxi L.)

Maryland. E. N. Cory (April 5): Boxwood psyllid attacking boxwood at Chestertown.

CHRYSANTHEMUM

CHRYSANTHEMUM GALL MIDGE (Diarthronomyia hypogaea Loew)

Kentucky. M. L. Didlake (April 23): Chrysanthemum midge, galls, larvae, and pupae at Lexington.

Ohio. E. W. Mendenhall (April 27): The chrysanthemum midge is injuring chrysanthemum plants in greenhouses in Springfield.

CHRYSANTHEMUM APHID (Macrosiphoniella sanborni Gill.)

Mississippi. C. Lyle (April 24): This aphid is reported as numerous on chrysanthemum at Meridian.

Arizona. C. D. Lebert (April 3): Observed in nearly all plantings around Phoenix. In several places the stems of the plants were completely covered for a length of from 6 to 8 inches.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

New York. R. E. Horsey (April 24): A foundation planting along a building at Rochester was so badly infested that it was necessary to cut it to the ground. Other foundation plantings were also found almost completely covered with this scale.

E. P. Felt (April 24): The euonymus scale was numerous on euonymus twigs at Jericho, N. Y.

Mississippi. C. Lyle (April 24): On euonymus from Mendenhall on April 2.

GLADIOLUS

GLADIOLUS THRIPS (Taeniothrips simplex Morison)

Florida. J. R. Watson (April 21): The gladiolus thrips is quite common in the big bulb-growing district of Manatee County.

GRAPE MEALYBUG (Pseudococcus maritimus Ehrh.)

Maryland. E. N. Cory (April 2): Mealybug on gladiolus at Baltimore.

IVY AND OLEANDER

OLEANDER SCALE (Aspidiotus hederæ Vallot)

Arizona. C. D. Lebert (April 15): A heavy infestation was found on a large estate northeast of Phoenix. Several banks of ivy and about 80 oleanders were affected. On many of the oleanders about 30 percent of the leaves were dead.



## JUNIPER

### JUNIPER WEBWORM (Dichomeris marginellus F.)

Maryland. F. F. Smith (April 6): Juniper webworm infestation noticed at the Research Center at Beltsville and also at Silver Spring. Larvae are enlarging their webs extensively as the weather becomes warmer.

E. N. Cory. Juniper webworm on trees at Queen Anne, Talbot County.

Virginia. I. F. Saunders (April 19): An infestation at Hillsville, in western Virginia, where the juniper webworm is killing juniper. The juniper shrubs are being fast covered with the webworms, spinning their webs on the outer parts of the shrubs and laying their eggs on the stems of the terminal twigs and in the axils of the needles.

## NARCISSUS

### BULB MITE (Rhizoglyphus hyacinthi Edv.)

Nebraska. M. H. Swenk (April 22): An easter lily bulb sent in from Box Butte County on January 16 was found badly infested with the bulb mite. Specimens of the collembolans Cyphodeirus albinus Nicolet and Isotoma viridis Bourlet were also found on the bulb. A Madison County correspondent reported narcissus bulbs infested with the mite on April 14.

## RHODODENDRON

### RHODODENDRON BORER (Sesia rhododendri Beutm.)

Connecticut. E. P. Felt (April 24): The rhododendron borer was found at work on rhododendrons at Stamford.

## ROSE

### ROSE APHID (Macrosiphum rosae L.)

New Jersey. M. D. Leonard (April 24): Fairly numerous on new shoots of a number of garden rose bushes and vines at Haddonfield. Mostly apterous forms, but a few with wing pads.

Mississippi. C. Lyle (April 24): Aphids, probably M. rosae, are unusually abundant on roses at Jackson, Morton, Meridian, and other points in central Mississippi.

### ROSE SCALE (Aulacaspis rosae Bouche)

New York. R. E. Horsey (April 17): Rose scale not common but some found on roses at Rochester.

## SNOWBALL

### SNOWBALL APHID (Aphis viburnicola Gill.)

Minnesota. A. G. Ruggles (April 24): Snowball aphid eggs came through the winter perfectly and are ready to hatch.

INSECTS ATTACKING MAN AND  
DOMESTIC ANIMALS

MAN

SANDBLIES (Culicoides spp.)

Georgia. J. B. Hull (March): During the latter part of March the spring emergence of sandflies began in the vicinity of Savannah. Complaints were received, especially from residents of Wilmington Island.

Florida. J. B. Hull (March): On the island near Ft. Pierce sandflies annoyed workers almost every calm morning in March. On March 17 they were worse than they had been at any time previously during the season.

NO-SEE-UMS (Leptoconops sp.)

Utah. G. F. Knowlton (April 14): Biting midges, no-see-ums, are annoying to man at Promontory Point and west of Warren, in Weber County.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Maryland. F. C. Bishopp (April 18): This tick has appeared in moderate numbers during the last few days from Washington, D. C., and nearby Maryland. The absence of reports of the activity of this tick, together with field observations, indicates that it has just appeared in noticeable numbers.

Delaware. F. C. Bishopp (April 23): A few ticks were found on dogs in central Delaware. They are said not to have been in evidence earlier this spring.

BLACK WIDOW SPIDER (Latrodectus mactans F.)

Nebraska. M. H. Swenk (April 22): A basement in Dawes County was reported on April 19 as infested with the black widow spider.

Montana. H. B. Mills (April 22): Numerous inquiries have been received concerning the control of black widow spiders.

CATTLE

SCREWORM (Cochliomyia americana C. & P.)

United States. W. E. Dove (April 30): The end of April finds the screwworm limited to the peninsular portion of Florida and to the southern counties of Texas, with indications of a slight gradual spread. Specimens of larvae obtained from other States were found not to be C. americana. Wound infestations occurring in other States were found in horn bases of dehorned animals and navels of calves and were usually identified as Phormia sp. For the 4-week period ended April 23, screwworm control workers reported 4,310 cases from Florida as follows: Cattle 3,108, hogs 1,093, horses 25, mules 5, goats 51, sheep 11, and other animals 17. The predisposing causes were tick bites 16, castrations 335, dehorning 53, marking 206, branding 45, in mothers of young animals 82, in navels of young 2,832, breeding injuries 3, dog bites 100, snags and scratches 436,

horn fly bites 2, warts 9, hog bites 13<sup>4</sup>, boils 19, and others 38. The larger number occurred in navels of young animals and in surgical operations which received infestations during the abnormally early occurrence of the spring season. In Texas specimens of C. americana larvae occurred in localized areas as far west as Comstock, and a fly was found by W. L. Barrett at Langtry (both in Val Verde County). The most northern point was Sonora, and the most eastern point was in Matagorda County. Localized outbreaks on individual ranches were found in Uvalde, Kinney, and Bexar Counties, where stockmen made efforts to get the cases treated. The shearing of sheep is advancing ahead of the spread of screwworms and shear cuts are being treated by stockmen throughout the sheep- and goat-breeding area. Efforts are being made to prevent a big build-up of a screwworm population. For the 4-week period ended April 23, there were 1,939 cases reported from the southern counties of Texas. They occurred as follows: Cattle 1,707, hogs 5, horses 36, goats 36, sheep 154, and others 1. The predisposing causes were as follows: Castrations 141, dehorning 55, branding 32, shear cuts 23, lamb docking 59, mothers of young 44, navels of young 1,446, dog bites 33, snags and scratches 62, warts 1, hog bites 1, boils 1, rams fighting 5, and others 35. Stockmen with infested animals are screwworm conscious and are treating their cases promptly.

#### STABLE FLY (Stomoxys calcitrans L.)

Georgia. E. R. McGovran (April 26): On warm days during January, February, and March a few stable flies were observed annoying cattle in the vicinity of Valdosta.

Mississippi. E. W. Dunnan (April 15): The stable fly has been moderately abundant throughout the winter and is now present in great numbers in Washington County.

Texas. E. W. Laake (April 20): Stable flies are still rather scarce, there being an average of about 5 per animal on a dairy herd of approximately 80 cows.

#### HORN FLY (Haematobia irritans L.)

Georgia. E. R. McGovran (March): On warm days during January, February, and March, a few horn flies were observed feeding on cattle in the vicinity of Valdosta. During the latter part of March there was a noticeable increase in the number of horn flies attacking cattle.

Texas. E. F. Knipling (April 12): Horn flies were estimated to average 150 per head on cattle in the northern part of Cameron County. Horn flies on about 50 cattle observed on April 12 in the western part of Hidalgo County and in Starr County averaged less than 5 per head.

Texas. E. W. Laake (April 20): Horn flies have increased rapidly during the last week or two. The average number per animal on a dairy herd of about 80 animals was approximately 100.

#### BUFFALO GNATS (Eusimulium spp.)

Mississippi. C. Lyle (April 24): On account of alternating periods of warm and cold weather this spring, buffalo gnats have not caused as much trouble as was expected. During the past month they have been observed at various localities in the Delta and in the adjacent hill sections. A



complaint of very serious injury to chickens by gnats was received from Water Valley on April 17.

Utah. G. F. Knowlton (April 14): Simuliidae, principally E. vittatum Zett., are becoming moderately abundant along streams at Salt Lake City, Mill Creek, and Granite.

#### CATTLE GRUBS (Hypoderma spp.)

North Dakota. J. A. Munro (April 21): Cattle in the Fargo vicinity are free of cattle grubs, except for an occasional animal brought in from western areas, where cattle grubs are a real problem. In a recent shipment of three head of cattle brought in from western North Dakota, it was noticed that one of the cattle had eight grubs. The grubs have recently begun to leave the backs of the animals.

Kansas. H. R. Bryson (April 17): E. G. Kelly reports the appearance of H. lineatum De Vill. later than usual, none having been observed to date.

Texas. E. W. Laake (April 20): No cattle grubs were found in a herd of approximately 80 cows.

#### CATTLE BITING-LOUSE (Bovicola bovis Nitz.)

North Dakota. J. A. Munro (April 21): Cattle in the vicinity of Fargo were heavily infested during the past winter. Reports indicate a fairly statewide distribution.

#### GULF COAST TICK (Amblyomma maculatum Koch.)

Florida. E. R. McGovran (April 26): A few nymphs of the Gulf coast tick were found on birds in the vicinity of Gainesville on March 16. Examinations of cattle in Alachua County during March indicated that the ticks had not yet begun to attack livestock.

Mississippi. C. Lyle (April 27): A complaint that A. americana was very numerous at Fulton, causing trouble on cattle, was received on April 5.

Texas. E. F. Knipling (April 26): Of 19 meadowlarks examined on March 10, 17 were infested with larvae and nymphs of the Gulf coast tick. An average of 3.68 ticks per bird were collected. The number of nymphs far exceeded that of the larvae, the proportion being 61 to 9. On March 23 an examination of 20 meadowlarks showed all the birds infested with from 1 to 7 nymphs or larvae each, the average being 3.65. Three field sparrows examined on March 10 were infested with a total of 10 ticks. Six cowbirds examined on March 23 were all found to be infested with an average of 1.8 ticks per bird. Examinations of cattle in Brooks, Willacy, and Cameron Counties during March indicated that the ticks has not yet begun to attack livestock.

#### HORSES

##### HORSE BOTFLIES (Gastrophilus spp.)

Texas. E. F. Knipling (April 26): Horse botflies (G. nasalis L.) were attacking horses and mules in the northern part of Cameron County on March 22.

E. F. Knipling (April 26): Horse botflies (G. intestinalis Deg.) were observed ovipositing on horses in Willacy County on March 23.



# HOUSEHOLD AND STORED-PRODUCTS INSECTS

## TERMITES (Reticulitermes spp.)

- Connecticut. N. Turner (April 20): Flights of R. flavipes Koll. started in January in heated buildings and have continued to date. The usual large numbers of buildings were found infested, and much damage was reported.
- New Jersey. J. C. Silver (April 17): Migration of R. flavipes started about April 1 and is continuing. Reports of several infestations found in a Bloomfield office building, also at Glenridge, East Orange, and other places. Over 25 infestations were reported to this office last spring.
- Pennsylvania. J. O. Pepper (April 26): Swarms of termites have been reported from several houses in the vicinity of Philadelphia.
- Ohio. T. H. Parks (April 24): Swarming of termites was very limited until April 3. Since then many complaints have been received.
- Indiana. J. J. Davis (April 26): Inquiries concerning termites are now coming in at a rapid rate, active swarming having been delayed this year until a few weeks ago.
- Illinois. W. P. Flint (April 26): Many reports have been received, accompanied by specimens of adult termites, showing that general swarming is taking place throughout central and southern Illinois. So far all swarms reported have been from buildings, probably most of them heated.
- Kentucky. M. L. Didlake (April 23): Termites reported at Lexington.
- Texas. F. L. Thomas (April): Five records of termites in Bryan and College Station received since April 15, when they began swarming. One report received of termites at Waelder, Gonzales County, on April 19.
- Montana. H. B. Mills (April 1): Termites. Swarming from the foundation of a building, the floor of which was weakening. An infestation of termites was discovered in a building in Hardin on April 1.
- California. R. E. Campbell (April 20): Flights of subterranean termites were observed at Alhambra on April 14, and several calls were received reporting flights elsewhere in that vicinity.

## ANTS (Formicidae)

- Maryland. E. N. Cory (April 2): Reports received of black carpenter ant (Camponotus pennsylvanicus Deg.) in a house at Cockeysville on April 2.
- Kentucky. M. L. Didlake (April 23): Ants in lawns and plant beds at Franklin and Oak Grove on April 23.
- Mississippi. C. Lyle (April 24): Numerous complaints of ants, probably Solenopsis xyloni McCook, have been received from various sections of the State during the past month.

Nebraska. M. H. Swenk (April 22): Complaints of the basement ant (Lasius interjectus Mayr) as present in the basements of houses were received on February 28 and March 6 from Douglas and Boone Counties, respectively. On February 26 a correspondent from Keyapaha County complained of the mound-building prairie ant (Pogonomyrmex occidentalis Cress.) having formed a large mound on ground that was to be used for a garden.

Oklahoma. F. A. Fenton (April 17): Several requests have been received concerning control of the red harvester ant (P. barbatus F. Smith.)

BROWN-BANDED COCKROACH (Supella supellectilum Serv.)

Wisconsin. C. L. Fluke (April 20): This tropical or subtropical species was taken in numbers infesting a home in Mazomanie, Dane County. The roaches were numerous enough to require control measures.

HOUSE CRICKET (Gryllus domesticus L.)

Mississippi. C. Lyle (April 24): Serious damage to clothing by this insect was reported from Philadelphia on April 20.

TISSUE-PAPER BUG (Thyrodrias contractus Mots.)

Illinois. C. L. Metcalf (April 16): I have another report of "the tissue-paper bug" (T. contractus) from 5034 Washington Boulevard, Chicago, with the statement that this pest was found on pantry shelves, on the floors of four rooms, and, especially, crawling up the walls in bedrooms and closets.

A BEETLE (Melitomma sericeum Harr.)

Ohio. T. H. Parks (April 24): These beetles were brought in on April 19 with the statement that they were emerging from chestnut beams in a recently constructed house in Columbus. They were identified by J. N. Knull.

PEA WEEVIL (Bruchus pisorum L.)

Idaho. C. Wakeland (April 19): T. A. Brindley reports that winter survival of the pea weevil ranged from naught to 44 percent under the bark of ponderosa pine in the vicinity of Moscow. The minimum temperature adjacent to the trees where there was no survival was -21° F. Under the bark and in cracks of fence posts, survival ranged from 0.99 to 17.06 percent, and the minimum temperature for Moscow, which is the closest point where temperatures are available, was -30°. Hibernation cages placed in Weather Bureau kiosks throughout the State have shown that 100 percent mortality occurred under these conditions.

HOUSE CENTIPEDE (Scutigera forceps Raf.)

Kansas. H. R. Bryson (April 20): A report received of considerable infestation of house centipedes in a house at Enterprise on April 20.